UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
EDISON, NEW JERSEY 08837

JAN 1 2 2017

CERTIFIED MAIL# 7009 3410 0002 4816 8450
RETURN RECEIPT REQUESTED

Mr. Chris DiCarlantonio
Plant Manager
Arctic Glacier, Inc.
500 Fenimore Road
Mamaroneck, New York 10543

Re: PRELIMINARY DETERMINATIONS LETTER: Clean Air Act, Section 112(r) Risk Management Program, Arctic Glacier, Inc., Mamaroneck, New York
EPA Facility ID # 1000 0010 7948

Dear Mr. DiCarlantonio:

On April 29, 2016, the U. S. Environmental Protection Agency (EPA) visited the Arctic Glacier, Inc. facility in Mamaroneck, New York, and conducted an inspection to determine the sufficiency of the Risk Management Program for the anhydrous ammonia process at this facility. The inspection was carried out pursuant to 40 CFR 68 the Risk Management Program regulation, promulgated under the Accidental Release Prevention Program provisions found in § 112(r) of the Clean Air Act Amendments of 1990.

As a result of the inspection, the EPA has found items of non-compliance regarding the Risk Management Program for the anhydrous ammonia process. These items are identified as preliminary determination items in the Preliminary Determinations attachment. The Inspection Report and Inspection Checklist are also included for your review.

By this letter, the EPA is giving your facility an opportunity to sufficiently address the Preliminary Determination items identified in the Inspection Report, by agreeing to conform to the Compliance Schedule below.

**Compliance Schedule:**

In accordance with 40 CFR § 68.220(e), the EPA is providing a compliance schedule for the correction of the preliminary determination items.

| Required Action | Time frame |
|---|---|
| **Written Response to this letter** | **10 calendar days from receipt of letter** |
| **Preliminary Determination Items** | **45 calendar days from receipt of letter** |

**Response Requirements:**

The EPA requests your review of the inspection results. A written response to this letter is required within 10 calendar days of receipt of the letter. Your response should indicate whether the preliminary determination items will be corrected in accordance with the included timetable, or whether the items have been rejected, in whole or in part. For each rejection, your response must include an explanation of the adequacy of your facility's proposed alternative. Failure to respond may be considered a violation of the Clean Air Act (CAA) and may potentially result in an enforcement action by the EPA. Section 113 of the CAA 42 U.S.C. § 7413 permits the EPA to seek the imposition of civil or criminal penalties for failure to comply with the requirements of Section 112(r) of the CAA. Please send your written response to:

Mr. Francesco Maimone
U.S. Environmental Protection Agency
Region II
2890 Woodbridge Avenue, MS-211
Edison, NJ 08837-3679

The EPA believes that the preliminary determination items for your facility can be sufficiently resolved within 45 days. The EPA requires submission of appropriate photocopies, photos, certification, purchase records, etc. in order to demonstrate that preliminary determination items have been adequately addressed or corrected.

For each Preliminary Determination Item, consisting of Findings, Recommendations, and Items of Concern from the Inspection Report, please provide:

- A status update on actions taken
- A completion date for all previously resolved Preliminary Determination Items with supporting documentation
- A proposed completion date for all Preliminary Determination Items not yet completed

Please be advised that it is EPA's intent to continue the Risk Management Program inspection process following the receipt of the written response. Should you have questions regarding this inspection, please feel free to call Francesco Maimone of my staff at (732) 321-4483.

Sincerely yours,

Eric Mosher
Chief, Response and Prevention Branch

Attachments:
- Inspection Report
-Inspection Report Attachments
-Inspection Checklist

# CLEAN AIR ACT SECTION 112(r) INSPECTION REPORT

***Arctic Glacier, Inc.***
***Mamaroneck, NY***

## GENERAL INFORMATION

| | |
|---|---|
| **Stationary Source** | Arctic Glacier- Mamaroneck |
| **Date of Inspection** | April 29, 2016 |
| **USEPA Lead Inspector** | Francesco Maimone – USEPA, REGION II (Edison, NJ) |
| **Description of Activities** | • Opening meeting with facility representative.<br>• Program audit.<br>• Closing meeting with facility representatives.<br>Program audit consisted of the following activities:<br>1. Document review.<br>2. Field verification.<br>3. Personnel interviews |
| **Reason for Inspection** | Sufficiency Inspection |

## STATIONARY SOURCE INFORMATION

| | |
|---|---|
| **EPA Facility ID #** | 1000 0010 7948 |
| **Current RMP (used for inspection)** | Receipt Date: June 12, 2014 (Re-submission)<br>5-Year Anniversary Date: June 12, 2019 |
| **Original RMP** | June 21, 1999 |
| **Facility Location** | 500 Fenimore Road<br>Mamaroneck, NY 10543<br>Westchester County<br>Latitude: 40.949720; Longitude: -073.741390<br><br>Tel. (914) 698-8808 |
| **Number of Employees** | *RMP*eSubmit* states 40 employees (per RMP registration); As of the date of the inspection, the facility has approximately 8 employees. A maximum of 40 employees are present during summer months. |
| **Dun & Bradstreet** | The Dun & Bradstreet number is not included in the RMP. |
| **Title V?** | No |

| | |
|---|---|
| **Description of Surrounding Area** | The facility is located in an urban commercial/residential area. Businesses are located to the north, west, and northwest, and southwest. Residences are located to the north, east, and southeast. The facility abuts a rail line. See Attachment 1. |
| **Participants** | Participants included:<br><br>Francesco Maimone, USEPA – Region II, Edison, NJ<br><br><u>Arctic Glacier, Inc. Mamaroneck, NY:</u><br>Mr. Chris DiCarlantonio, Plant Manager+<br>Mr. Dimas Hernandez, Employee Representative+<br>Paul Gadomski, Electrical Consultant (Aleksandrich Compliance & Engineering Services, LLC)<br><br>* Designated RMP Lead<br>+ Lead representative during plant tour |

# REGISTRATION INFORMATION

| | |
|---|---|
| **Process ID #** | 1000054810 |
| **Program Level (as reported in RMP)** | Program 3 (Refrigeration) |
| **Process Chemicals** | Ammonia (anhydrous) @ 16,000-lbs |
| **NAICS Code** | 312113 (Ice Manufacturing) |

# GENERAL COMMENTS

Arctic Glacier – Mamaroneck is an ice manufacturing facility in an urban commercial/residential area of Mamaroneck, New York. The facility consists of one approximately 65K sq ft production building on approximately one-and-a-half acre. The facility, formerly Saxony Ice, has been operating at this location for approximately ten years, and was purchased by Arctic Glacier in 2003. Arctic Glacier operates approximately 80 facilities nationwide. EPA performed an initial RMP inspection at this facility in 2001 (Saxony Ice).

The facility's single-stage refrigeration system contains 16,000 lbs of anhydrous ammonia, and includes two HP receivers, 6 compressors, 2 evaporative condensers, 8 ice makers, and 2 air units.

The facility operates eight hours per day, five days per week, with some seasonal variation. The nearest residence is less than 0.1 miles from the facility. Refrigeration system operators are on site during all shifts.

*Detection*

There are ten ammonia detectors located on-site at the following locations:
2- Engine Room
2- North Freezer
4- South Freezer
2- Bagging Area

Facility personnel indicated that all detectors alarm at 15 ppm, and initiate system shutdown at 25 ppm.

*Characteristics of Anhydrous Ammonia*

- Colorless liquid or gas with pungent odor
- Acutely toxic
- Irritant and corrosive to the skin, eyes, respiratory tract and mucous membranes; exposure to liquid or rapidly expanding gases may cause severe chemical burns and frostbite to the eyes, lungs, and skin.
- Weight – 5.15-lbs./gals. (@60 deg.F)
- Vapor density is lighter than air
- Boiling point is -28 deg.F (@ 1 ATM)
- Can form explosive mixtures in air
- Flammable range is 16 – 25 %

NOTE: Please note that this report is not intended to cover or address compliance matters identified by the Occupational Safety and Health Administration inspection that took place on August 20, 2012 – February 14, 2013.

# RMP DOCUMENTATION

The facility has a written Risk Management Program, and utilizes a consultant to assist in administering the Risk Management Program.

**Registration**

The facility has a current RMP with sufficient emergency contact information. The facility's 5-Year PHA, 3-Year Compliance Audit, and Annual Operating Procedure review dates were listed in the RMP within their appropriate timeframes.

**Management System [*40 CFR 68.15*]**

The facility has a written Management System Policy that was last revised on June 10, 2014.

Facility documentation indicates that the Plant Manager, Mr. Chris DiCarlantonio, is responsible for implementing, developing, and integrating PSM/RMP into facility operations.

## Hazard Assessment [*40 CFR 68.20-68.39*]

Arctic Glacier- Newburgh's Hazard Assessment was last revised in June 2014.

The facility utilized the EPA Anhydrous Ammonia Tables to determine the Worst Case (WC) and Alternative Case (AC) distance-to-endpoint information. The scenario descriptions and assumptions, parameters, and distance-to-endpoint estimates, and impacted residential population and environmental receptor information were appropriate.

Arctic Glacier- Mamaroneck's WC and AC results were similar to those obtained by the EPA using RMP*Comp (release modeling software) and MARPLOT (mapping, receptor, and population estimation software).

## Process Safety Information (PSI) [*40 CFR 68.65*]

The facility has written Process Safety Management documentation specific to their refrigeration system.

The following PSI was available for review:

- Safe Upper & Lower Limits for process parameters
- Maximum Intended Inventory Information
- Safety controls of equipment
- Consequences of deviation
- Deviation prevention documentation
- Materials of construction
- Electrical classification (non-hazardous- Class 1 Division 2 of NEC do not apply because mechanical ventilation is automatically started by an ammonia detector set at 50 ppm).
- Relief System Design and Design Basis, with sizing information
- Extensive information regarding Equipment Installation Design Basis
- Ventilation System Design, with calculations
- Explanation of Safety Systems
- Piping & Instrumentation Diagrams (P&IDs), revised by Refrigeration Design & Service Inc. on May 2, 2012
- Block Flow Diagram, dated May 2, 2012
- Safety Data Sheet
- RAGAGEP/PSI Certification, signed by Chris DiCarlantonio, Plant Manager, on June 1, 2015

Given the time allotted, PSI appeared to be complete.

**Process Hazard Analysis (PHA) [*40 CFR 68.67*]**

During the inspection, the EPA requested the two most recent PHAs conducted by the facility. These PHAs took place in 2006 and 2011.

The December 1-2, 2011 PHA was reviewed. Additional information regarding the 2011 PHA is contained below:

- Methodology: What-If/Checklist based on IIAR Process Safety & Risk Management Guidelines for Ammonia Refrigeration, 2nd Edition.
- Team Members: Larry Aleksandrich (Aleksandrich Compliance & Engineering Services, LLC), Raphael Lebreton (Plant Manager at the time), & Joe Bartos (Stellar Refrigeration Services contractor).
- Led by Larry Aleksandrich (Aleksandrich Compliance & Engineering Services, LLC)
- Risk Ranking assigned to each PHA item
- 8 Action Items identified, all actions documented as completed

The 2011 PHA did not appear to include operators of the process, although others familiar with the process were participants in the PHA. It is recommended that the facility include at least one operator in the next PHA. Including operators in the PHA could help identify scenarios and other circumstances that can help ensure the safe operation of the ammonia refrigeration system.

**Standard Operating Procedures (SOPs) [*40 CFR 68.69*]**

SOPs were available for review by equipment type. A separate document contained safety and health considerations for the facility's SOPs. SOPs were last certified by the Plant Manager, Mr. Chris DiCarlantonio on June 1, 2015.

**Training [*40 CFR 68.71*]**

Arctic Glacier- Mamaroneck has an Operator Training Policy dated June 10, 2014.

Arctic Glacier- Mamaroneck has one full-time ammonia refrigeration maintenance technician (operator). As of the date of the inspection, it was determined that he has been in this position for a little over one year. Initial Training, documented in Form OT-1, was completed for this operator. The operator was trained by the facility's ammonia refrigeration compliance consultant on September 23, 2015. Initial Training included a written test about ammonia refrigeration. This operator was not yet due for Refresher Training because he has been in this position for a little over a year based on the date of the inspection.

The facility has a secondary ammonia refrigeration maintenance technician who is stationed at Arctic Glacier's Long Island facility. He works at the Mamaroneck location on an as-needed basis. Initial Training test records were also available for the secondary ammonia refrigeration technician.

During the inspection, facility personnel indicated that the Plant Manager is able to view system temperatures and pressures electronically. When temperatures, pressures, or other parameters are off-specification, the Plant Manager notifies the lead maintenance technician. If the Plant Manager is involved in operating the ammonia refrigeration process, he might be subject to the Training requirements located at 40 CFR 68.71, even if his level of involvement is less than the Lead Mechanic.

**Mechanical Integrity *[40 CFR 68.73]***

Arctic Glacier- Mamaroneck's Mechanical Integrity documentation includes a list of inspections and tests, and their time intervals. This document, with the assistance of the facility's ammonia refrigeration contractor, was dated May 2014. During the inspection, it was explained that the facility's ammonia refrigeration compliance contractor recommends inspections and tests to be conducted, and it is the facility's responsibility to ensure that the inspections and tests are completed by ammonia refrigeration mechanical contractors.

The facility has a monthly service contract with Modern Freezing Systems, an ammonia refrigeration mechanical contractor. The most recent service contact proposal, as of the date of the inspection, was dated April 4, 2016 and is valid for one year if accepted. The proposal contains a preventative maintenance schedule for compressors, condensers, evaporators, pumps, and ice makers. Work Orders for Modern Freezing Systems were available for review for calendar year 2015.

Facility personnel explained that Pressure Relief Valve (PRV) replacement is done by an ammonia refrigeration contractor. The last PRV replacement, according to facility personnel, was conducted by Stellar Refrigeration Services. Records of PRV changeout were not available for review. The facility must ensure that records of inspections and tests are documented and retained.

Facility personnel explained that Oil Pot Draining is completed by facility personnel with the assistance of Modern Freezing Systems. The last Oil Pot draining, according to the facility, took place on December 16, 2015. Facility personnel explained that the lead maintenance technician will eventually perform oil pot draining on his own without contractor assistance. Please be reminded that the facility must record all inspections and tests, including documentation for Oil Pot draining.

Ammonia detector calibration was last conducted on April 27, 2016 by Modern Freezing Systems. Calibration documentation states that shutdown is initiated at 25 ppm; however, other detector documentation reviewed during the inspection indicates that shutdown is initiated at 50 ppm. The facility must ensure that its PSI accurately reflects setpoints used by the facility.

During the inspection, facility personnel indicated that the lead maintenance technician will conduct system checks, a daily walk-through, and limited preventative maintenance such as oil pot draining and adding oil to compressors. The lead maintenance technician

will advise the Plant Manager when an ammonia refrigeration mechanical contractor is needed. It is recommended that the facility's Mechanical Integrity documentation clearly delineate responsibilities of facility operators and ammonia refrigeration mechanical contractors.

**Management of Change (MOC) [*40 CFR 68.75*] & Pre-Startup Review (PSR) [*40 CFR 68.77*]**

As of the date of the inspection, the facility's most recent Management of Change took place on May 1, 2013. This MOC was conducted to provide a new refrigeration control system. A review of the MOC indicated that all applicable MOC requirements were met, including appropriate sign-offs on the MOC. The MOC appeared extensive and complete.

**Compliance Audits [*40 CFR 68.79*]**

Arctic Glacier- Mamaroneck's two most-recent Compliance Audits took place on June 10, 2013 and June 20, 2007. A Compliance Audit was not conducted in June 2010. **The facility must ensure that a Compliance Audit is conducted at least every 3 years, as required by 40 CFR 68.79(a).**

Additional information pertaining to the June 10, 2013 Compliance Audit is provided below:

- 3 team members- ammonia refrigeration compliance consultant, a previous Plant Manager, and the previous lead refrigeration maintenance technician
- Led by the ammonia refrigeration compliance consultant
- 4 findings identified- all documented as completed
- Systematically went through program elements

**Incident Investigation [*40 CFR 68.81*]/ Five-Year Accident History [68.42]**

Three incident investigations (August 20, 2012; October 8, 2012; May 29, 2013) were reviewed pertaining to Arctic Glacier- Mamaroneck's ammonia refrigeration system. The facility implements Form IIR-1A to document its incident investigations. See Attachment 2. **During a review of the Incident Investigations, it was identified that they do not identify the date each incident investigation began. The facility must ensure that its incident investigations contain the date in which the investigation began, as required by 40 CFR 68.81(d)(2).**

Additionally, there was no documentation available for review indicating that a system for addressing incident investigation findings has been established, and that each finding has been resolved. **The facility must ensure that incident investigation findings and their resolution are documented, as required by 40 CFR 68.81(e).**

A review of the three incident investigation reports also revealed that the facility is not implementing Form IIR-1A by completing all fields and signatures. See Attachment 2. The facility should complete all fields integrated into its Incident Investigation procedure.

**Employee Participation [*40 CFR 68.83*]**

The facility has a written Employee Participation Program. Additional elements of the facility's Employee Participation Program includes a Safety Policy & Procedures Manual (dated June 2013) and a 2009 Employee Handbook.

The Plant Manager provided an Emergency Response and Evacuation Training to Arctic Glacier- Mamaroneck employees, dated April 26, 2016.

An Employee Interview was conducted during the inspection. The Employee Interviewed indicated that the lead maintenance technician is aware of the location of Process Safety Management documentation.

**Hot Work Permit [*40 CFR 68.85*]**

Arctic Glacier- Mamaroneck's Hot Work Permit procedure is dated February 9, 2007. As of the date of the inspection, the two most recent Hot Work Permits were dated September 16, 2014 and August 30, 2014. The Hot Work Permits reviewed appeared complete.

**Contractor Safety [*40 CFR 68.87*]**

Arctic Glacier- Newburgh's Contractor Safety Policy was last revised on June 10, 2014. The facility requires contractors to complete Contractor Qualification (CQ) Forms, and all visitors and contractors are required to review and sign the Visitor and Contractor Policy/General Safety Guidelines. The facility maintains signed copies of the CQ and Visitor and Contractor Policy/General Safety Guidelines forms.

The facility's Contractor Qualification Forms (CQ) are as follows:

CQ-1: Contractor Qualifications & Reference Questionnaire
CQ-2: Contractor Employee Acknowledgement Record
CQ-3: Contractor Employee Training Evaluation Inquiry

Modern Freezing Systems, Inc., the facility's main ammonia refrigeration mechanical contractor, submitted CQ forms to the facility on April 28, 2016.

CQ-1: Contractor Qualifications & Reference Questionnaire
CQ-2: Contractor Employee Acknowledgement Record (for each contract employee)

CQ-3: Contractor Employer Training Evaluation Inquiry (completed by facility on 1/1/16 for Modern Freezing Systems, Inc.)

**Emergency Response [*40 CFR 68.90 – 68.95*]**

Arctic Glacier- Mamaroneck does not maintain an internal emergency response team. The Newburgh Fire Department would respond to ammonia releases at the facility. Facility personnel indicated that the Mamaroneck Fire Department would respond to releases at the facility and that the Westchester HAZMAT team would also be available. Facility personnel also indicated that the local fire department has conducted walkthroughs of the facility. Written confirmation that the Mamaroneck Fire Department or Westchester HAZMAT team would respond to releases at the facility was not available. The facility should ensure that it is sufficiently coordinated with its responders.

The facility maintains an Emergency Response Plan, last updated in August 2015. The facility also maintains an emergency response contact list.

**Tier II**

The facility had a record of its Tier II report for calendar year 2015. The Tier II documentation was submitted via E-Plan, and was signed and dated by the Plant Manager on February 11, 2016.

**FACILITY TOUR**

No significant field observations were made during the inspection.

Industry standard recommended practices suggest that the King Valve be labeled. The King Valve was not labeled during the Facility Tour. The facility should evaluate whether a large label identifying the King Valve to responders would be beneficial during response, and label as appropriate.

Moderate frosting was observed on some valves that might impact the ability to exercise the stems of these valves. The facility should ensure that defrosting procedures are adequate.

# FINDINGS

**Compliance Audits [*40 CFR 68.79*]**

Arctic Glacier- Mamaroneck's two most-recent Compliance Audits took place on June 10, 2013 and June 20, 2007. A Compliance Audit was not conducted in June 2010. **The facility must ensure that a Compliance Audit is conducted at least every 3 years, as required by 40 CFR 68.79(a).**

**Incident Investigation [*40 CFR 68.81*]**

Three incident investigations (August 20, 2012; October 8, 2012; May 29, 2013) were reviewed pertaining to Arctic Glacier- Mamaroneck's ammonia refrigeration system. The facility implements Form IIR-1A to document its incident investigations. See Attachment 2. **During a review of the Incident Investigations, it was identified that they do not identify the date each incident investigation began. The facility must ensure that its incident investigations contain the date in which the investigation began, as required by 40 CFR 68.81(d)(2).**

Additionally, there was no documentation available for review indicating that a system for addressing incident investigation findings has been established, and that each finding has been resolved. **The facility must ensure that incident investigation findings and their resolution are documented, as required by 40 CFR 68.81(e).**

# ITEMS OF CONCERN

**Mechanical Integrity [*40 CFR 68.73*]/ Process Safety Information (PSI) [*40 CFR 68.65*]**

Ammonia detector calibration was last conducted on April 27, 2016 by Modern Freezing Systems. Calibration documentation states that shutdown is initiated at 25 ppm; however, other detector documentation reviewed during the inspection indicates that shutdown is initiated at 50 ppm. The facility must ensure that its PSI accurately reflects setpoints used by the facility.

**Emergency Response [*40 CFR 68.90 – 68.95*]**

Written confirmation that the Mamaroneck Fire Department or Westchester HAZMAT team would respond to releases at the facility was not available. The facility should ensure that it is sufficiently coordinated with its responders.

# RECOMMENDATIONS

**Registration**

Arctic Glacier- Mamaroneck's Dun & Bradstreet number is not included in the RMP. The Dun & Bradstreet number must be included in the RMP, as required by 40 CFR 68.190(b)(3).

**Process Hazard Analysis (PHA) [*40 CFR 68.67*]**

The 2011 PHA did not appear to include operators of the process, although others familiar with the process were participants in the PHA. It is recommended that the facility include at least one operator in the next PHA. Including operators in the PHA

could help identify scenarios and other circumstances that can help ensure the safe operation of the ammonia refrigeration system.

**Training [*40 CFR 68.71*]**

During the inspection, facility personnel indicated that the Plant Manager is able to view system temperatures and pressures electronically. When temperatures, pressures, or other parameters are off-specification, the Plant Manager notifies the lead maintenance technician. If the Plant Manager is involved in operating the ammonia refrigeration process, he might be subject to the Training requirements located at 40 CFR 68.71, even if his level of involvement is less than the Lead Mechanic.

**Mechanical Integrity [*40 CFR 68.73*]**

Facility personnel explained that Pressure Relief Valve (PRV) replacement is done by an ammonia refrigeration contractor. The last PRV replacement, according to facility personnel, was conducted by Stellar Refrigeration Services. Records of PRV changeout were not available for review. The facility must ensure that records of inspections and tests are documented and retained.

During the inspection, facility personnel indicated that the lead maintenance technician will conduct system checks, a daily walk-through, and limited preventative maintenance such as oil pot draining and adding oil to compressors. The lead maintenance technician will advise the Plant Manager when an ammonia refrigeration mechanical contractor is needed. It is recommended that the facility's Mechanical Integrity documentation clearly delineate responsibilities of facility operators and ammonia refrigeration mechanical contractors.

**Incident Investigation [*40 CFR 68.81*]**

A review of the three incident investigation reports also revealed that the facility is not implementing Form IIR-1A by completing all fields and signatures. See Attachment 2. The facility should complete all fields integrated into its Incident Investigation procedure.

## FACILITY TOUR

Industry standard recommended practices suggest that the King Valve be labeled. The King Valve was not labeled during the Facility Tour. The facility should evaluate whether a large label identifying the King Valve to responders would be beneficial during response, and label as appropriate.

Moderate frosting was observed on some valves that might impact the ability to exercise the stems of these valves. The facility should ensure that defrosting procedures are adequate.

**INSPECTOR SIGNATURE:** _____ 1/12/17
Francesco Maimone, Physical Scientist Date

**APPROVER SIGNATURE:** _____ 1/12/17
Ellen Banner, Section Chief Date